

Idaho Currents



Photo by Diane Holt

*On the cover***ENERGY STAR® updates former governor's mansion**

By Linda Cawley, Idaho Currents Editor

Step into one of Boise's historical homes and you may get the feeling you're on the movie set of "Back to the Future." More than a century after it was built, the Alexander House is a model for 21st Century efficiency.

This landmark house was built by Idaho's 11th governor, Moses Alexander, on the northwest corner of Third and State streets in Boise. Legend has it that by using only a picture and floor plan printed in a newspaper, two carpenters hired by Alexander in 1895 completed the home in two years.

The four-bedroom, two-story frame house was built at the cost of \$3,200. According to the Idaho Historical Society, the house is an excellent example of the Queen Ann style of architecture, and is listed on the National Register of Historic Places.

After Alexander died in 1932, his son, Nathan, and his family lived in the home until 1975. Nathan Alexander remodeled the nearly 3,000-square-foot home in 1932, including the addition of a second bathroom. In 1977 the Alexander family sold the residence to the state of Idaho.

In July 2001 the state began planning a major renovation to restore and preserve the historical features of the Alexander House and still incorporate energy-saving features. The remodeling was completed the first week in January 2002.

By outfitting the home with ENERGY STAR® qualified lights and kitchen appliances, the state hopes to preserve an important part of Idaho's past and set a good example for Idaho residents.

"This is a positive step for the future of the Alexander House and the state of Idaho," says Connie Davis, executive director of the Friends of the Alexander Home foundation.

The first remodel in 1932 included replacing the original coal furnace with an oil-fired system. The home is now connected to the Capitol Mall geothermal system

along with a gas-fired backup system. A new water heater replaced an old boiler and an air conditioner was installed.

One of the major tasks was to update the insulation in the exterior walls and attic. "The house originally had no insulation," according to Jeff Egan with the Division of Public Works. "Horsehair was mixed with plaster for the interior walls.

"The inside lath and plaster walls were removed and replaced with R 19 fiberglass batts. Cellulose was blown in the attic to meet the R 38 minimum requirement."

Energy efficiency

ENERGY STAR is the national seal of approval for the most energy-efficient products available today, according to the Northwest Energy Efficiency Alliance (NEEA). It is estimated that by switching to ENERGY STAR qualified appliances, an average household can save up to 30 percent on utility bills, while saving resources at the same time.

NEEA brought all the partners

See **Energy** on page 3



Alexander House 1898, photo courtesy of Idaho State Historical Society



Energy from page 2

together and secured the donations of new ENERGY STAR qualified products for the Alexander House. Support also included participation from Idaho Power Company and other local utilities.

NEEA is a non-profit group of electric utilities, state governments, public interest groups and industry representatives that promotes the ENERGY STAR label to Northwest consumers.

The Energy Division promotes ENERGY STAR through its Idaho ENERGY STAR Homes Program.

State showcase

Although no one lives in the home, three state agencies have offices in the second story. The Alexander family has donated furniture, dishes and other items, and memorabilia from past governors adds to the authenticity of the home.

The home is a showcase for life in the early 1900s but is still functional for gubernatorial receptions, dinners, and other state functions.

For more information on ENERGY STAR and a complete list of ENERGY STAR qualified products, retailers, manufacturers and energy savings information, call 1-888-373-2283 or log onto www.energystar.gov.

Additional information on the Idaho ENERGY STAR Home program is available by calling Anne Brink at 208-327-7976 or by logging onto www.idahoenergystar.com.

Energy Division identifies areas with high wind potential development

Twelve sites have been identified as having the highest potential for wind energy development on state-owned land in Idaho.

The sites include two in northern Idaho, seven in southwestern Idaho, and three in eastern Idaho. The areas, arranged in no priority from north to south, are:

1. South of Priest River in the Hoodoo Mountain area;
2. North of Kellogg;
3. Near the Oregon border southeast of Brownlee Reservoir in Washington County;
4. Northeast of Cambridge in Washington County;
5. Reynolds Creek area of Owyhee County near Silver City;
6. Northeast of Mountain Home in the Bennett Mountain area;
7. North of Mountain Home in the Danskin Peak area;
8. North of Interstate 84 between Mountain Home and Glenns Ferry;
9. North of Interstate 84 in the Orchard area between Boise and Mountain Home;
10. South of American Falls near Rockland;
11. South of Idaho Falls; and
12. South of Lava Hot Springs

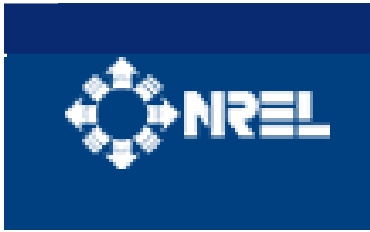
"The 12 sites were selected from hundreds of potential wind power development areas," according to Gerald Fleischman, energy specialist with the Energy Division.

To develop the list, the Energy Division used computer technology to overlay digital Idaho wind power resource maps with grids pinpointing state-owned land areas. Geographic information system specialists with the Idaho Department of Water Resources then added additional layers of data showing power transmission lines, roads, and other significant wind power development requirements.

The list will now be scrutinized to identify the top five sites. Anemometers will then be installed on towers at the five sites to measure and record actual wind data for one year (see article on page 9).

"The wind speed data is a crucial element in determining whether a site has commercial development potential," says Fleischman. Once the wind data measurement phase is completed, the Energy Division will provide state land managers with information that could potentially be used to help Idaho market the sites to commercial wind energy developers.

To learn more about wind generation or view the wind power resource maps online, see www.idahowind.org.



NREL marks 25 years of research excellence

A quarter century of research at the National Renewable Energy Laboratory (NREL) has yielded remarkable progress in improving energy efficiency and renewable energy technologies.

Located on 327 acres in Golden, Colorado, the NREL was established by the Solar Energy Research Development and Demonstration Act of 1974. The NREL, originally called the Solar Energy Research Institute, began operating in July 1977 and was designated a national laboratory of the U.S. Department of Energy in September 1991.

The laboratory's research has been a major contributor to increasing efficiencies and lowering costs of the production and use of energy from renewable energy resources. For example, the cost of wind energy has declined from 30 cents per kilowatt-hour (kWh) in 1980 to less than five cents, according to the NREL. Ethanol costs have dropped from \$4 per gallon in the early 1980 to \$1.20 today, and the cost of electricity from photovoltaics has plummeted from more than \$1 per kWh in 1980 to nearly 20 cents per kWh today.



A clean energy future

Six types of renewable energy technologies are being researched at the NREL. **Hydrogen** – the lab is developing a broad portfolio of electrochemical, biological, and thermal hydrogen production technologies. Scientists at NREL are also developing innovative technologies for storing, sensing, and using hydrogen,

and are helping to move today's industrial hydrogen infrastructure to one that can support widespread use of hydrogen energy.

Bioenergy – fuels, biobased materials, and power from plants and wastes – represents an important and relatively untapped supply of a potentially enormous indigenous renewable resource.

In October 2000, DOE created the National Bioenergy Center (NBC) at the laboratory. The two-fold strategy for the NBC is to develop multiple products from biomass residues

and natural biomass sources, and to genetically engineer more productive biomass sources.

Distributed energy resources (DER) can provide electric generation close to where it's needed. These resources can be available for sensitive load applications (such as electronics equipment and critical manufacturing processes) and can still provide a number of energy products and services not readily available from today's electricity grid.

DER research and development activities at NREL are conducted in areas of electric systems integration, electric reliability, resource evaluation, environmental analysis, and hydrogen systems.

Wind power is currently the only non-hydroelectric renewable energy technology that is economically competing for a substantial portion of the U.S. electric power grid. As DOE's lead laboratory in wind technology development, the NREL operates the National Wind Technology Center, and manages turbine research programs and applied research activities. Market opportunities for wind energy systems exist in both industrialized nations and developing countries.

Solar technologies use the sun's energy and light to provide heat, light, hot water, electricity, and even cooling for homes, businesses and industry. Photovoltaic (PV) solar cells, which directly convert sunlight into electricity, provide electricity for pumping water, powering

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Idaho Currents

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DOE designates Yellowstone, Grand Teton national parks as 'Clean City'

Year after year millions of people visit Yellowstone National Park and its southern neighbor, Grand Teton National Park. The natural beauty of the pristine water, magnificent mountains and abundance of wildlife constantly captivate visitors to these parks.

Several years ago the Greater Yellowstone/Teton Clean Cities Coalition (GYTCCC) was established by stakeholders in three states, five national forests, two national parks, seven communities and six counties.

This coalition was founded in an effort to protect this pristine environment, combined with a drive to increase our national security by reducing our dependence on foreign sources of energy.

In a ceremony at Yellowstone's Old Faithful Geyser, on Sept. 18, the U.S. Department of Energy formally designated the GYTCCC as the first official "Clean City" in Idaho, Montana and Wyoming. It also recognized the coalition's commitment to the use of alternative fuels and vehicles and acknowledged the efforts of the stakeholders who have committed to this effort.

Clean Cities Program

The Clean Cities Program takes a unique, voluntary approach to alternative fuel vehicle (AFV) development by working with coalitions of local stakeholders to help develop the AFV industry.

The mission of the program "is to enhance our national energy security and air quality by supporting public and private partnerships that deploy clean-burning AFVs and build their associated fueling infrastructure."

As the world's oldest national park, Yellowstone National Park was established on March 1, 1872. Within its boundaries, Old Faithful Geyser erupts every hour on the hour, and some 10,000 hot springs and geysers – the majority of the earth's total – continue to enthrall visitors.

The park is the core of the Greater Yellowstone Ecosystem, one of the largest intact temperate zone ecosystems remaining on the planet.



The "Truck-in-the-Park" demonstration program started at Yellowstone National Park in 1995. The Chrysler Corporation donated a 1995 Dodge pickup for the project and the University of Idaho supplied the 100 percent rapeseed ethyl ester fuel and technical expertise. (U of I photo)

How it started

In 1997, Idaho Falls Mayor Linda Milam became interested in the Clean Cities Program through the work of the Idaho National Engineering and Environmental Laboratory (INEEL) and DOE's Idaho Operations office. She realized that in order for alternative and renewable fuels to be sustainable, the program needed to be approached on a regional level.

The GYTCCC was formed a year later as a result of the collaboration of local and regional interests. It united public and private entities that were geographically and economically linked for the purpose of advancing the use of alternative and renewable fuels into the transportation and energy infrastructure of the region.

"The Energy Division is a key stakeholder in the coalition and a signatory to the Memorandum of Understanding," said Gerry Galinato, principal energy specialist with the Energy Division, during the designation ceremony. "The division is committed to promoting the development and use of renewable and clean energy in Idaho and supports the goals and objectives of the GYTCCC."

Bioenergy 2002

National conference spotlights alternative fueled vehicles

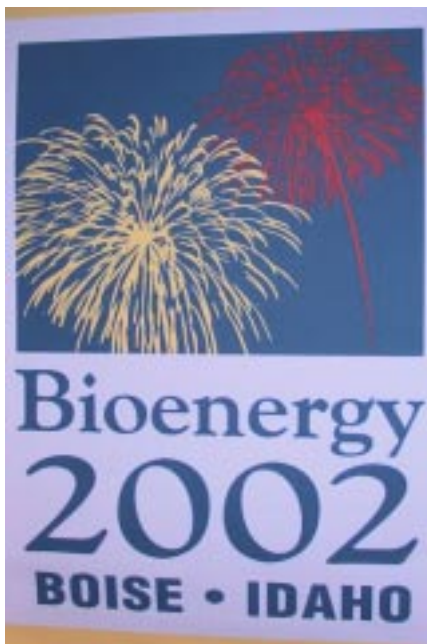
Through the Green Energy Program in national parks and federal fleets, biodiesel is the fuel of choice.

The program and the use of biodiesel were among the topics discussed during the Tenth Biennial Bioenergy Conference in September in Boise. More than 500 people, including representatives from 30 foreign countries, participated in the five-day event.

Bioenergy has exploded into one of the most exciting segments of the international economic and industrial arenas. From national security strategies to environmental protection techniques to an engine for economic development, bioenergy now combines all these and other critical elements to make it a front burner issue in nearly every country.

During the conference, speakers emphasized using biomass to reduce our nation's dependence on fossil fuels and supplement our regional energy resources while benefiting the environment. At the same time it provided a forum for some of the world's leading experts to share and develop new ideas that will improve our knowledge of bioenergy as an energy resource. Examples of biomass projects highlighted at the conference include:

- Some Oregon dairies make electricity by burning the methane released by decomposing cow manure;
- Ethanol made from grain or potato waste products fuels the engines of the snowmobile fleet in Yellowstone National Park;
- A major supermarket chain in Idaho is testing used fry oil from its delicatessens as a fuel for powering the refrigeration units on tractor-trailers;
- In Alaska, tests are underway to see if fish oil can be turned into useful liquid fuel; and
- A new process in the state of Washington captures methane from organic wastes for conversion to heat or electric energy.



Three students review at materials at the Night, one of the free sessions during the evening enabled the public to meet with bi

Green Energy Program

The Green Energy Parks Program was National Park Service (NPS) and the U.S. D national parks fund the program. The goals of

- Promote the use of energy-efficient and re alternative fuels;
- Educate the public about the impact of con the park and demonstrate programs tha communities.

The DOE and the NPS have designed a nearly 200 parks, including Yellowstone Nation they can use many of these same technologies homes and businesses.

"The national parks are ideal places to s to promoting both energy-efficient and renewab to the Federal Energy Management Program (F impacts associated with pollution and global cli

Article by Linda Cawley,
Photos by Diane Holt, GR



Twin Ports Testing booth during Citizens' Bioenergy 2002 Conference. The unique bioenergy experts and attend short presenta-

launched in 1999 as a joint venture between the Department of Energy (DOE). User fees at the the Green Energy Parks program are: renewable energy sources and increase the use of

ventional energy use on the natural resources in t visitors can take home to use in their own

and implemented sustainable energy projects in onal Park. As a result, visitors are learning how es to reduce energy consumption in their own

showcase the federal government's commitment le energy technologies and practices," according (EMP). "This, in turn, reduces the environmental imate change.

**Idaho Currents Editor
Graphic Design Specialist**

DOE recognizes federal, state bioenergy projects

Bill Holmberg, a man who has served tirelessly for many years to advance the cause of bioenergy and bio-based products, was honored with the Distinguished Service Award during the Bioenergy 2002 Conference in Boise in September.

Holmberg is president of Global Biorefiner in Vienna, Virginia. Jeff James, regional manager for U.S. Department of Energy in Seattle, presented the award.

"Most of Bill's effort has been at his own expense," James said as he presented the award to Holmberg. "More recently, Bill served on the staff of Senator Ben Nelson, where he led the successful effort to get a Renewable Portfolio Standard included in the Senate Energy Bill," James added.

Regional and national agencies and professionals were also acknowledged for their contributions of time and technology to bioenergy and bio-based products during the conference.

Pacific Regional Biomass Energy Program

Private industry, non-profits, universities: Paul Mann, J.R. Simplot Company

The J.R. Simplot Company has been instrumental in the Northwest by actively supporting biomass energy projects and activities. Paul Mann oversees the J.R. Simplot ethanol plants that convert potato wastes to ethanol. He has also worked with the University of Idaho and the Energy Division with the Regional Biomass Program's over-the-road demonstration project.

The purpose of the demonstration was to test biodiesel fuel in big trucks. The program acquired a Kenworth truck powered with a Caterpillar engine

running on a 50/50 blend of biodiesel and petro-diesel fuel.

J.R. Simplot provided the ethanol needed to make the biodiesel fuel and provided the driver and the route that could quickly add 200,000 miles to a brand new engine.

These contributions helped make the demonstration a success. The information and data gained from the over-the-road demonstration were key to qualifying biodiesel as an alternative fuel.

J.R. Simplot Company was also a major contributor to the Bioenergy 2002 Conference.



Paul Mann, J.R. Simplot Company

See DOE on page 11

BSU radio hits the jackpot with wind turbines

It's easy to take a radio for granted. Just turn it on and select a station. Until recently the people who live in the southern-most part of Idaho and northern Nevada had to subscribe to a cable network if they wanted to hear anything on their radios. That also meant no radio for anyone driving through the area.

But thanks to Boise State University's National Public Radio affiliate, KBSJ-FM, people in that desolate part of country, including Jackpot, Nev., now enjoy a mixture of music, news and talk shows 24 hours a day.

Solar vs. wind

For years BSU has been interested in providing a radio signal to that area. The biggest problem was no power. There were plenty of high mountains where a transmitter could be assembled, but there was no power on any of the mountaintops.

Tom Lowther, chief engineer at the public radio network's Twin Falls office, considered using solar power. But when he visited the site at the top of Ellen D Mountain, he realized that wind power just might be the answer. That's because winds on the peak routinely exceed 100 miles per hour.

After months of work the KBSJ-FM transmitter, along with three state-of-the-art turbines, began providing broadcast service. What started as just an idea in 1997 finally happened this April. A federal grant through the U.S. Department of Commerce paid for most of the \$500,000 project in a program designed to bring radio to unreachable areas.

At an elevation of 8,630 feet, the wind generator towers don't need to be as tall as most. The low-profile windmills can keep spinning nearly all year except during August and September. Then the backup propane-powered generators provide the needed power.

The windmills constantly recharge a bank of batteries that run the station. If the wind were to die the batteries could keep running the station for three days.

Boise State Radio was cited before the U.S. Senate in July for "its creative application of wind power technology" for



Steve Johnson, Boise State Radio's director of engineering, points out the three 7.5 kW wind turbines that provide power for the radio station. (BSU photo)

what is believed to be the first public radio transmitter site to rely on the power of wind, according to BSU.

Sen. Mike Crapo visited the studio and presented the station with the Spirit of Idaho award. The studio is located in the Simplot/Micron Instructional Technology Center on the BSU campus.

Crapo, who has a strong interest in the development of wind power in Idaho, noted Boise State's leadership role in that field.

"Recognizing Idaho's wind power potential and its benefits to rural economics, Boise State Radio is emerging as a leader in the advancement of environmentally efficient technology," he said.

The official Senate Record recorded the following: "In an age when just 3 percent of electricity in today's national mix comes from renewable sources, BSU Radio has committed to expanding its services while advancing the use of clean, efficient power sources."

Hold onto your hat, it's windy in Lava Hot Springs

Nestled in the southeast corner of Idaho, the small town of Lava Hot Springs is a community known for its natural underground springs with temperatures ranging from about 102 to 112 degrees.

Now a mountain ridgeline just five miles south of Lava Hot Springs in Bannock County appears to have the top wind power potential of all state-owned lands in Idaho.

Energy Division officials estimate the 10-to 15-mile-long ridgeline in the Portneuf Mountain Range could support a wind farm capable of producing up to 150 Megawatts of electrical power. A wind farm that size could potentially involve 100 or more wind rotor towers.

Other top potential wind power development sites include a 20-square-mile area in Owyhee County about eight miles northwest of Silver City and a 150-square-mile block of state-owned land on ridgelines east of Priest Lake in Bonner and Boundary counties in northern Idaho.

"The Lava Hot Springs site appears to have excellent potential for wind power development," says Gerald Fleischman, staff engineer with the Energy Division. "There's even a location on the ridge named Windy Pass, which gives you some idea of the available winds in the area."

Fleischman, one of the state wind specialists involved in evaluating the sites, and Kurt Meyers, a wind power specialist from the Idaho National Engineering and Environmental Laboratory, made an evaluation visit to the site in late August.

Final selection

State wind power specialists selected the top three sites from a list of a dozen sites around the state that showed promise for wind power development following visits to the areas (see article on page 4).

The ridgeline near Lava Hot Springs is situated perpendicular to the prevailing wind in the area. The site is also reasonably close to both existing electrical transmission lines and roads in the area. U.S. government wind resource maps show the area to have Class 6 winds, meaning winds averaging 17-18 miles per hour.

The Priest Lake area had originally been eliminated from consideration because of environmental concerns.

However, wind specialists added the site back into the top three listing after visiting there. The area containing a ridgeline perpendicular to excellent prevailing winds convinced them that the site had such good wind power development potential that it should at least be considered.

Wind speed data

The Energy Division plans to install anemometers at the three sites. The anemometers are mounted on towers where they continuously measure and record wind speeds. The wind speed information is a crucial element in determining if a site has commercial development potential.

See **Hold** on page 12



At 9,100 feet, it's so windy at Sedgewick Peak that even the trees grow at an angle, as demonstrated by Gerald Fleishman, staff engineer with the Energy Division. The peak is part of the Portneuf Mountain Range in southeastern Idaho. (Photo by Kurt Meyers, INEEL)

New, improved manufactured home generates its own electricity

Walking into a new 1,600-square-foot home at the Nez Perce Tribe's fish hatchery near Lapwai it's hardly noticeable. But stay a while and you'll see how the house is consistently saving energy.

Why? Because the home has been designated the first "Zero Energy Manufactured Home." In fact, officials from the Energy Division say this is the most energy-efficient manufactured home in the world.

The home was built this summer at Kit Manufacturing in Caldwell. The company has constructed energy-efficient homes since 1989 through the region's Super Good Cents® Manufactured Home Program.

For years the Energy Division has promoted the SGC Manufactured Home Program, but this home was built with even more enhanced energy saving techniques, such as:

- Advanced Icynene® foam insulation system in its walls, floors and ceilings,
- Low e vinyl frame windows built by Kinro in Nampa,
- Venmar® heat recovery ventilator with heat efficiency particulate air (HEPA) filter,
- Efficient compact fluorescent lights,
- Gossamer Series ceiling fans,
- An Insider® heat pump, and
- ENERGY STAR® appliances by Maytag.

The home is also designed to generate energy with 4.2 kilowatts of photovoltaic panels that provide most of the home's electrical needs and a solar hot water system for domestic hot water.

Joint project

"The home is part of a demonstration project created by Mark Jackson, an engineer with the Bonneville Power Administration," says Ken Eklund, principal energy specialist with the Energy Division.



Bob Minter, left, senior energy specialist, fastens a solar electric collector to the roof of the Zero Energy Manufactured Home while Mike Nelson, Washington State University Energy Program, watches. The collectors will provide most of the home's electrical needs including hot water. (Photo by Mike Purcell)

Mike Lubliner, with the Washington State University Energy Program, coordinated the project and arranged for the energy-efficient products and technologies. BPA funded the extra cost of building the home to the highest standards of energy efficiency plus the cost for project management. Clearwater Homes of Orofino handled the sale of the home to the tribe as well as the setup.

Eklund arranged with the Nez Perce Tribe to site both the Zero Energy home and a standard SGC manufactured home at the new fish hatchery. The Energy Division also provided technical assistance and helped with the construction.

The home's energy use will be monitored for a year and compared to a standard ENERGY STAR manufactured home, also built by Kit, which is sited on an adjoining lot.

"In an average year the Zero Energy Manufactured Home is expected to create a surplus of energy," says Eklund. The home is connected to the utility grid and will feed its extra solar-generated electricity to Clearwater Power Company. When the home needs power from the grid, its meter will run forward, and when it has extra, the meter will run in reverse.

NREL from page 4

communications equipment, lighting, and running appliances.

The NREL is home to the National Center for Photovoltaics and world-class PV research and development. Additional solar programs include R&D in solar thermal, concentrating solar power and passive solar technologies.

Geothermal energy is the heat that flows continuously from the Earth's core toward the surface. Geological processes concentrate enough of that heat near the surface that a large amount of energy could be extracted and used for electrical power generation and for direct heat applications – all on a clean, reliable, and sustainable basis.

NREL supports DOE's geothermal mission – to establish geothermal energy as an economically competitive contributor to the U.S. energy supply – by improving the efficiency of heat transfer, serving as a core laboratory for energy systems research and testing, and through communication, analysis, and outreach activities.

Using energy more efficiently is almost always easier and cheaper than producing new energy. In most cases, increased efficiency does not mean decreased convenience to the consumer. NREL's energy efficiency technologies are reducing the demand for energy in residential and commercial buildings, and in the transportation and industrial sectors.

While the NREL is proud of all it's accomplished in the past 25 years, it is even more confident that the next 25 years will see further advances in renewable energy and energy efficiency technologies. These will help provide a sustainable future for not only the United States, but also the entire world.

DOE on page 7**State Agency Awards - Idaho**

- John Crockett, renewable energy specialist, Energy Division;
- Dick Larson, Public Information Officer, Idaho Department of Water Resources;
- Dr. Charles Peterson, U of I Biological and Agricultural Engineering Department.

These three individuals drive the progress Idaho makes in marketing biodiesel, promoting a regional ethanol industry and adopting methane recovery systems for livestock wastes. They have also helped make Idaho one of the national leaders in promoting the use of renewable biomass resources, James said.

As part of Idaho's bioenergy program, the state has created a statewide market for biodiesel, promoted a regional ethanol industry, and worked with the agricultural community to adopt methane recovery systems for livestock wastes.

"Right now you can see many local governments, school districts, and federal fleet operators using biodiesel," said James. "In the not-to-distant future you will see (more) commercial ethanol plants being constructed and you will read about the first methane recovery system set up to handle cattle wastes operating in the Magic Valley."

Additional agencies and professionals were recognized as follows:

State agency awards

- John F. Herholdt, West Virginia Development Office
- Ralph Groschen, Minnesota Department of Agriculture
- Dave Bingaman, Pennsylvania Department of Agriculture
- Valentino Tiangco, California Energy Commission

Regional awards - Private industry, non-profits, universities
Southeast Regional Biomass Energy Program

- Steve Segrest, Common Purpose Institute

Great Lakes Regional Biomass Program

- Chariton Valley Resource Conservation and Development

Northeast Regional Biomass Energy Program

- Chewonki Foundation – Peter Arnold

Western Regional Biomass Energy Program

- Dave Vander Griend, ICM, Inc.

National Laboratory Awards

- Janet Cushman, Oakridge National Laboratory
- K. Shaine Tyson, National Renewable Energy Laboratory

Federal Government Awards

- Jim Evanoff and Tim Hudson, Yellowstone National Park
- Chris Case, Picture Rocks National Seashore
- Rhonda Brooks and Kent Bullard, Channel Islands National Park

New from page 10

“The siting of this home at the new Nez Perce fish hatchery is appropriate,” Eklund adds. “The Zero Energy Manufactured Home demonstrates how energy can be conserved and generated on site, preserving the flexibility of the hydro system for the benefit of all uses including energy production and fish migration.”

(Brand named items in this article do not constitute endorsement by the Idaho Department of Water Resources.)

Hold from page 9

Once the wind data measurement phase is completed, the Energy Division will give a comprehensive report on the sites to the Idaho Department of Lands. State land managers then can potentially use the information to help market the sites to commercial wind energy developers as possible wind power development sites. Wind power developers typically pay \$2,000-\$4,000 per year per turbine to lease ground on which the wind turbines are situated.

Idaho wind power maps are available online at www.idahowind.org.

FREE booklet

A new free consumer guide on “Small Wind Electric Systems” is available from the Energy Division.

The 23-page book, published by the U.S. Department of Energy, includes Idaho-specific maps, charts and diagrams compiled by the National Renewable Energy Laboratory as recently as April 2002.

“Wind energy systems are one of the most cost-effective home-based renewable energy systems,” according to DOE. “Depending on your wind resource, a small energy system can lower your electric bills by 50 percent to 90 percent.”

To obtain the free booklet, call the Idaho Energy Hotline, 1-800-334-SAVE, or email Linda Cawley at lcawley@idwr.state.id.us.

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